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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,156	04/08/2004	Ko-Pin Chang	24061.83 (TSMC2003-0893)	9194

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EXAMINER	
VON BUHR, MARIA N	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/821,156	CHANG ET AL.	
	Examiner	Art Unit	
	Maria N. Von Buhr	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-29 are pending in this application.

2. The following is a quotation of the second paragraph of 35 U.S.C. §112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which Applicant regards as his invention.

3. Claims 15 and 25-28 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In claim 15, there is no clear and proper antecedent basis for "the working piece," since inconsistent terminology has been used.

In claim 25, there is no clear and proper functional antecedence for "selecting a gas purge station to perform the gas purging is based on an optimized gas purge queue time," since only one gas purge station has previously been provided for, such that "selecting" one has no context, and since no "optimizing" of nor even existence of a "queue" has previously been provided for.

In claim 26, there is no clear and proper functional antecedence for "updating a tag ID after gas purging is performed," since no such "tag ID" has previously been provided for, such that it can be "updated." Also, it is unclear what this "tag ID" is in relation to.

In claim 27, there is no clear and proper antecedent basis for "the nitrogen purging."

In claim 28, there is no clear and proper functional antecedence for "raising a flag for hold if the workpiece has no tag information available," since no such "tag information" has previously been provided for, such that its availability can be determined. Also, it is unclear what this "tag information" is in relation to.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by Applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by Applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by Applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 10, 11, 16, 19 and 29 are rejected under 35 U.S.C. §102(e) as being clearly anticipated by Chen et al. (U.S. Patent No. 6,821,891), which discloses "deposition methods for forming thin metal films, such as copper films, on substrates for use in manufacturing semiconductor devices, flat-panel display devices, and other electronic devices" (col. 1, lines 14-18), including automated control of nitrogen gas purging devices in a wafer/semiconductor manufacturing environment (see at least, col. 7, line 64 - col. 8, line 17; col. 8, line 63 - col. 9, line 3).

6. Claims 1, 8-11, 16, 19, 23, 24 and 29 are rejected under 35 U.S.C. §102(b) as being clearly anticipated by Iwata et al. (U.S. Patent No. 6,297,114), which discloses a process and apparatus of fabricating a semiconductor, including the use of automated control of chamber within the fabrication line, wherein those chambers include nitrogen gas purging chambers, and loadlock and transfer chambers (see at least, col. 1, lines 39-63; col. 11, lines 31-68; col. 13, line 33 - col. 14, line 60).

7. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2, 6, 7, 18 and 20-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over either Chen et al. (U.S. Patent No. 6,821,891) or Iwata et al. (U.S. Patent No. 6,297,114), as applied to claims 1 and 16 above, further in view of Wehrung et al. (U.S. Patent No. 2002/0164242), which discloses a "control system for transferring and buffering material in a material transport system. A transport system and method for moving an article between a conveyor and a workstation. A robot works in conjunction with transportation buffer control system to move Pods between storage shelves, load ports

and I/O ports without intervention of the material handling controller. The robots include vertical movement mechanisms and horizontal movement mechanisms together with gripping devices to handle the Pods. Movement of Pods between storage shelves, load ports and I/O ports is seen as a single activity by the material control system" (the abstract), including the well-known use of various transfer carriers and MCS in a semiconductor fabrication facility (see at least, paragraph 0017). It would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to utilize such transfer carriers and operating system in the systems of either Chen et al. or Iwata et al., because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

9. Claims 3-5, 12-15, 17 and 25-28 are rejected under 35 U.S.C. §103(a) as being unpatentable over either Chen et al. (U.S. Patent No. 6,821,891) or Iwata et al. (U.S. Patent No. 6,297,114), as applied to claims 1, 11 and 16 above, further in view of Pasadyn et al. (U.S. Patent No. 6,678,570), which discloses a "method for determining output characteristics of a workpiece includes generating a tool state trace related to the processing of a workpiece in a tool; comparing the generated tool state trace to a library of reference tool state traces, each reference tool state trace having an output characteristic metric; selecting a reference tool state trace closest to the generated tool state trace; and determining an output characteristic of the workpiece based on the output characteristic metric associated with the selected reference tool state trace. A manufacturing system includes a tool and a tool state monitor. The tool is adapted to process a workpiece. The tool state monitor is adapted to generate a tool state trace related to the processing of a workpiece in the tool, compare the generated tool state trace to a library of reference tool state traces, each reference tool state trace having an output characteristic metric, select a reference tool state trace closest to the generated tool state trace, and determine an output characteristic of the workpiece based on the output characteristic metric associated with the selected reference tool state trace" (the abstract), in a semiconductor fabrication facility, including the well-known use of MES to schedule processes using various identification elements (see at least, col. 1, line 28 - col. 2, line 25; col. 3, line 54 - col. 4, line 34). It would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to utilize such an operating system in the systems of either Chen et al. or Iwata et al., because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

10. Claims 6, 7 and 20-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chen et al. (U.S. Patent No. 6,821,891) or Iwata et al. (U.S. Patent No. 6,297,114), as applied to claims 1 and 16

above, further in view of either Huang et al. (U.S. Patent No. 6,597,964), which discloses the well-known use of various transfer carriers within a semiconductor fabrication facility (see at least, col. 5, lines 37-53). It would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to utilize such transfer carriers in the systems of either Chen et al. or Iwata et al., because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. §103(c) and potential 35 U.S.C. §102(e), (f) or (g) prior art under 35 U.S.C. §103(a).

12. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is advised to carefully review the cited art, as evidence of the state of the art, in preparation for responding to this Office action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria N. Von Buhr whose telephone number is 571-272-3755. The examiner can normally be reached on M-F (9am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maria N. Von Buhr
Primary Patent Examiner
Art Unit 2125

MNVB
3/21/05